

EN 10083 C50 steel plate high carbon steel

C50 steel plate, EN 10083 C50 steel plate, under EN 10083 standard, we can regard C50 steel plate as high carbon steel.

C50 steel plate is one mainly of high carbon steel, EN 10083 C50 steel plate is one of the higher carbon content (0.47-0.55) steels. It is equal to DIN C50, JUS Č.16301 and NF AF70C55.

		Comparison of steel grades	
C50	JUS	Č.16301	
EN 10083-2	DIN	C50	
Number: 1.0540	BS	-	
	GOST	-	
	AISI	-	
	UNI	-	
	NF	(AF70C55)	

Chemical analysis -% by mass * of C50 steel

Chemical elements	C	Si max .	Mn	P max.	S max.	Cr max.	Mo max.	Ni max.	Cr+Mo+Ni max.
% , by mass	0,47-0,55	0,40	0,60-0,90	0,045	0,045	0,40	0,10	0,40	0,63 - -
Permissible deviation	± 0,02	+ 0,03	± 0,04	+ 0,005	+ 0,005	+ 0,05	+ 0,03	+ 0,05	-

At the option of the manufacturer the elements aluminium, titanium, vanadium and niobium may be added singly

or in combination for grain size control purposes.

Elements not quoted in table shall not be added to the steel without the agreement of the purchaser, except for

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the purpose of finishing the heat.

Mechanical properties in the normalized and normalized and tempered conditions of C50 steel

Thickness of ruling section t_R					
Diameter in mm		$t_R \leq 100\text{mm}$	$100 < t_R \leq 250\text{mm}$	$250 < t_R \leq 500\text{mm}$	$500 < t_R \leq 1000\text{mm}$
$R_e \text{ min } (\text{N/mm}^2)$		320	290	-	-
$R_m \text{ min } (\text{N/mm}^2)$		610	590	-	-
A % min.	l-longitudinal	14	14	-	-
	tr -transverse	-	-	-	-
KV min * (J)	l-longitudinal	-	-	-	-
	tr -transverse	-	-	-	-

1N/mm²=1MPa

Heat treatment conditions

Quenching Temperature, °C	Cooling medium	Tempering Temperature, °C	Normalizing Temperature, °C
810 to 850	Oil or water	550 to 660	830 to 870

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